

IN THE CLAIMS

Claims 1-13 (Cancelled)

14. (Previously added) A hollow-cylindrical gradient coil system comprising:

a gradient coil comprising gradient coil circumferential conductor sections disposed longitudinally spaced from each other at a first cylindrical surface, and gradient coil longitudinal conductor sections electrically connecting said gradient coil circumferential conductor sections;

a shielding coil for shielding said gradient coil, comprising shielding coil circumferential conductor sections disposed longitudinally spaced from each other at a second cylindrical surface that is disposed a radial distance outside of said first cylindrical surface, and shielding coil longitudinal conductor sections electrically connecting said shielding coil circumferential conductor sections; and

said gradient coil longitudinal conductor sections being spaced from said shielding coil longitudinal conductor sections at a distance that is less than said radial spacing.

15. (Previously added) A gradient coil system as claimed in claim 14 wherein said shielding coil longitudinal conductor sections respectively co-axially enclose said gradient coil longitudinal conductor sections.

Claim 16 has been amended as follows:

16. (Currently amended) A gradient coil system as claimed in claim 14 having a principal cylinder axis, and wherein said gradient coil longitudinal conductor sections are disposed a ~~greater~~ lesser distance from said principal cylinder axis than said shielding coil longitudinal conductor sections.

17. (Previously added) A gradient coil system as claimed in claim 14 wherein said gradient coil and said shielding coil are adapted to carry substantially equal respective currents therein.

18. (Previously added) A gradient coil system as claimed in claim 14 wherein said gradient coil and said shielding coil are adapted to carry respective currents therein in opposite directions.